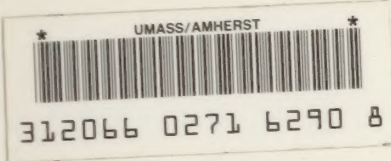


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INDEPENDENT ASSESSMENT OF
MASSACHUSETTS HIGHWAY MAINTENANCE PRIVATIZATION PROGRAM

for
Executive Office of Transportation and Construction

by
Coopers & Lybrand L.L.P.

June 1996

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EXECUTIVE SUMMARY

An independent review by Coopers & Lybrand L.L.P. found \$2.5 million in direct cost savings to the Commonwealth in the first contract year (October 1, 1992 to October 31, 1993) after the competitive tendering of highway maintenance in Essex County.

The cost savings are composed of:

MASSACHUSETTS HIGHWAY MAINTENANCE PRIVATIZATION PROGRAM

Reduced vehicle depreciation	\$1.5
Change of office facility	0.5
Reduced vehicle maintenance and administration	0.1
Programmed snowplow cost	1.2

for

Executive Office of Transportation and Construction

Comparisons of cost analyses by Coopers & Lybrand, EOTC and the State Auditor are summarized below:

Direct Costs	Coopers & Lybrand	EOTC	State Auditor
Pre-Privatization (FY '92)	\$4.7	\$4.5	\$4.2 million
Pre-Privatization (Oct '92 to Oct '93)	\$4.7	\$4.5	\$5.6
Savings	\$2.5	\$1.7	(\$1.4)

June 1996

The summary of necessary information needed in savings for a comparison of \$0.1 million per year by Essex County's highway maintenance program. Privatization enabled Essex County to realize additional savings and equipment costs \$0.5 million in other bid contracts. This transfer of an office facility (Newport) to the State Police as a result of privatization and direct privatization administered the report for the State Police to show \$0.1 million in savings for the State. annually for 20 years based on 20 million dollars.

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1974

EXECUTIVE SUMMARY

- An independent review by Coopers & Lybrand L.L.P. found \$2.5 million in direct cost savings to the Commonwealth in the first contract year (October 8, 1992 to October 7, 1993) after the competitive contracting of highway maintenance in Essex County.
- The cost savings are composed of the following:

Labor cost reductions	\$ 4.0 million
Reduced vehicle depreciation ¹	0.1
Closure of office facility ²	0.5
Reduced vehicle maintenance and administration	0.1
Increased contract cost	(2.2)
	\$ 2.5 million

- Comparisons of cost analyses by Coopers & Lybrand, EOTC and the State Auditor are summarized below:

Direct Costs:	<u>Coopers & Lybrand</u>	<u>EOTC</u>	<u>State Auditor</u>
Pre-Privatization (FY '92)	\$7.1 million	\$6.3 million	\$4.2 million
Post-Privatization (Oct '92 to Oct '93)	\$4.7	\$4.6	\$5.6
Savings	\$2.5	\$1.7	(\$1.4)

¹ The elimination of unnecessary vehicles resulted in savings from vehicle depreciation of \$0.1 million per year for Essex County's highway maintenance program. Privatization enabled Essex County to transfer unneeded vehicles and equipment worth \$0.9 million to other districts.

² The transfer of an office facility (Danvers) to the State Police as a result of privatization and district consolidation eliminated the need for the State Police to spend \$5 to \$7 million on a new facility. \$0.5 million is the direct cost savings to the State, annually for 20 years, based on \$6 million, 5% financing.

- One major difference between the savings estimates of Coopers & Lybrand and the State Auditor is in labor savings, where the Auditor's analysis erred by excluding certain MHD activities in the pre-privatization period but not in the post-privatization period. This led the Auditor to understate substantially actual labor cost savings.
- Another major difference is that Coopers & Lybrand used the actual cost of the outsourcing contract, \$2.6 million, while the State Auditor used an estimate of \$3.7 million made in December 1992 before the actual costs were known. As a result, the Auditor's analysis substantially overstates the actual cost of contract services.
- In addition to the direct cost savings, competitive contracting of highway maintenance in Essex County produced indirect cost savings in overhead and other expenses which are difficult to estimate with precision.
- The Essex County competitive contracting program also benefited other state agencies and other Massachusetts Highway Department (MHD) districts. These benefits include transferred facilities, equipment, vehicles, supplies and skilled labor. In addition, Essex County benefited from an increased level of maintenance activities, improved information tracking systems, and implementation of a quality control system that has allowed MHD managers to better measure productivity, service levels and employee performance.
- No state employees were laid off as a result of the Essex County competitive contracting program in the first contract year.

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TABLE OF CONTENTS

- 1.0 Study Objective and Introduction
- 2.0 Assessment of Savings and Effectiveness of the Essex County Highway Maintenance Competitive Contracting Program
- 3.0 Comparison to the State Auditor's Report
- 4.0 Assessment and Review of the Quality and Level of Service of the Essex County Highway Maintenance Competitive Contracting Program

Appendix A: Essex County Personnel Costs

Appendix B: Transferred Vehicles Depreciation Costs

Appendix C: FY 1991 and FY 1992 Maintenance Management System Summary Reports

1.0 STUDY OBJECTIVE AND INTRODUCTION

Study Objective

The Executive Office of Transportation and Construction (EOTC) commissioned Coopers & Lybrand, L.L.P. to conduct an independent assessment of the cost savings (if any) from competitively contracting state highway maintenance in Essex County in order to resolve differing savings estimates made by the Massachusetts Highway Department (MHD) (*Privatization of Highway Maintenance in Essex: Cost Analysis*, December 2, 1993) and the State Auditor's Office (*Privatization of the Maintenance of State Roads in Essex County, October 7, 1992 - October 6, 1993*).

Introduction

The Massachusetts Highway Department (MHD) is responsible for over 12,500 miles of highway, 3,000 bridges, 60,000 roadside acres, 80,000 catch basins, and 3.6 million feet of guardrail. One of MHD's primary tasks is the maintenance of this infrastructure.

In an attempt to reduce maintenance costs and improve the productivity and quality of work in the highway maintenance area, MHD implemented a pilot program to contract services for highway maintenance in Essex County beginning in September 1992. Key dates of the program since its inception and subsequent expansion are shown in Exhibit 1.

Exhibit 1: Key Dates in Massachusetts Highway Maintenance Privatization Program

September 1992	Initial one-year contract for Essex County awarded
October 1992	One-year contract for Essex County begins, October 8th
March 1993	State Auditor's Office begins audit of Essex County competitive contracting program
October 1993	One-year contract for Essex County re-awarded, October 8th Six additional one-year contracts for the remainder of Districts 4 and 5 awarded
October 1994	21-month contracts for all seven contracts for Districts 4 and 5 re-awarded to align contract year with state fiscal year
July 1995	State Auditor's Office releases audit of Essex County privatization program
June 1996	Contracts for all seven contracts for Districts 4 and 5 are re-awarded Additional contracts are awarded for highway maintenance in Districts 1, 2 and 3 in Western Massachusetts

2.0 ASSESSMENT OF SAVINGS AND EFFECTIVENESS OF THE ESSEX COUNTY HIGHWAY MAINTENANCE PRIVATIZATION PROGRAM

2.1 Methodology

- Coopers & Lybrand's assessment was completed using the "Guidelines for Implementing the Commonwealth's Privatization Law" (March 1994) prepared by the Office of the State Auditor to assist agencies in conducting their cost analysis (pre- and post-privatization costs), as required under Chapter 296 of the Acts of 1993 (so-called "Pacheco Law). While the privatization of state highway maintenance in Essex County occurred before Chapter 296 was enacted into law, the guidelines describe the recommended method for treating assets related to privatization, labor and other costs, and so forth.
- Several data sources were used in this analysis. Data sources are indicated in the footnotes to Exhibit 2.
- Where necessary, explanations on how Coopers & Lybrand calculated its cost estimates are also included in the footnotes to Exhibit 2.
- Where there was no discrepancy between the EOTC's and the State Auditor's estimates, Coopers & Lybrand accepted the figure(s) used by both parties.

2.2 Summary

- Essex County's privatization program produced direct cost savings of \$2.5 million in the first contract year (October 8, 1992-October 7, 1993) when compared to the pre-privatization cost of operation for the fiscal year 1992 (July 1, 1991-June 30, 1992).
- The \$2.5 million savings in direct costs consisted of the following:

Reduced labor costs	\$ 4.0 million
Reduced vehicle depreciation ³	0.1
Closure of office facility (rent savings) ⁴	0.5
Reduced vehicle maintenance and administration costs	0.1
Increased contract cost	(2.2)
	<hr/>
	\$ 2.5 million

³ The elimination of unnecessary vehicles resulted in savings from vehicle depreciation of \$0.1 million per year for Essex County's highway maintenance program. Privatization enabled Essex County to transfer unneeded vehicles and equipment worth \$0.9 million to other districts.

⁴ The transfer of an office facility (Danvers) to the State Police as a result of privatization and district consolidation eliminated the need for the State Police to spend \$5 to \$7 million on a new facility. \$0.5 million is the direct cost savings to the State, annually for 20 years.

Exhibit 2

Pre-Privatization (FY '92) versus Privatization Period (Oct '92-Oct '93)

<u>DIRECT COSTS</u>	<u>Pre-Privatization (FY '92)</u>	<u>Privatization (Oct '92-Oct '93)</u>	<u>Savings</u>	<u>% Cost Difference</u>
Personnel Costs				
Personnel Wages	\$3,868,770	\$1,107,517	\$2,761,254	-71.4%
Reg. Overtime	436,273	79,194	357,079	-81.8%
Benefits @ 33%	1,276,694	365,481	911,214	-71.4%
Subtotal	5,581,738	1,552,191	4,029,546	-72.2%
Material and Supply Costs				
Materials	24,974	0	24,974	-100.0%
Contract Services	419,709	2,605,719	(2,186,010)	520.8%
Subtotal	444,683	2,605,719	(2,161,036)	486.0%
Other Direct Costs				
Police	200,000	216,328	(16,328)	8.2%
Contingency	0	118,536	(118,536)	n/a
Facilities	475,164	0	475,164	-100.0%
Vehicle Depreciation	111,424	0	111,424	-100.0%
Vehicle Maintenance	91,520	26,415	65,105	-71.1%
Administrative Cost	257,700	183,925	73,775	-28.6%
Subtotal	1,135,808	545,204	590,604	-52.0%
TOTAL	\$7,162,229	\$4,703,114	\$2,459,114	-34.3%

Footnotes to Exhibit 2

1. Personnel costs were estimated based on FY '92 payroll salary and overtime, FY '93 payroll and Privatization Overtime Report. 33% benefits rate was used, as provided by the EOTC Budget Department (see Attachment A).

Contract functions pre-privatization were shared responsibilities of all state employees. After privatization, 31 engineers moved from Essex County to District 4 (which covers Essex County and three other districts: 4A, 4B, and 4C). Therefore, 25% of these engineers' full-time salaries is allocated to Essex County at an average salary of \$30,000 plus benefits.
2. Materials costs were estimated from the Massachusetts Management Accounting & Reporting System (MMARS). Contract Service costs were based on Contract Estimate Finals (September, 1995).
3. Police and contingency costs were estimated from Contract Estimate Finals (September, 1995). \$200,000 for the police detail for FY '92 was used since it was an accepted figure accepted by both EOTC and the State Auditor.
4. Based on the projected expenditure of \$6 million for land purchase and construction, a 5% interest charge and 20-year amortization, an annual facility expenditure of \$475,164 would have been paid for the State Police facility but for the transfer of the office building from EOTC to the State Police.
5. Vehicle depreciation is based on the vehicles transferred from Essex County to other districts after competitive contracting, their purchase price, remaining useful lives and a straight line depreciation method (see Attachment B).
6. Because of the transfer of unneeded vehicles and equipment worth \$0.9 million to other districts as a result of competitive contracting, a reduction in vehicle depreciation for Essex County was calculated to be \$0.1 million per year and is reflected in our assessment (see Attachment B).

3.0 COMPARISON OF COOPERS & LYBRAND’S ASSESSMENT TO EOTC’S COST ANALYSES AND THE STATE AUDITOR’S REPORT

3.1 Summary

- Comparisons of cost analyses performed by Coopers & Lybrand, EOTC, and the State Auditor are contained in Exhibits 3, 3A and 3B and are summarized below:

	Pre-Privatization Cost (Jul 91-Jun 92)	Post-Privatization Cost (Oct 92-Oct 93)	<u>Savings</u>
Coopers & Lybrand (June 1996)	\$7.1 million	\$4.7	\$2.5 million
EOTC ⁵ (December 1993)	6.3	4.6	1.7
State Auditor (July 1995)	4.2	5.6	(1.4)

- One major difference between the savings estimates of Coopers & Lybrand and the State Auditor is in labor savings, where the Auditor's analysis erred by excluding certain MHD activities in the pre-privatization period but not in the post-privatization period. This led the Auditor to understate substantially actual labor cost savings.

⁵ In December 1992, the Executive Office of Transportation and Construction (EOTC) released a cost analysis of the privatization of state highway maintenance in Essex County. The figures used in this initial analysis were estimates, since the first privatized highway maintenance contract began on October 8, 1992. In December 1993, two months after completion of the first contract year, the EOTC updated its figures based on actual costs. Given that this updated cost analysis was provided to the State Auditor during its audit of the Essex County highway maintenance privatization program and that these are based on actual – not estimated – costs, the figures shown here are from EOTC's December 1993 post-privatization cost analysis.

- The other main difference between Coopers & Lybrand and the State Auditor, as shown in Exhibit 3B, is that Coopers & Lybrand used the actual cost of the outsourcing contract, \$2.6 million, while the State Auditor used an estimate of \$3.7 million made in December 1992 before the actual costs were known. As a result, the Auditor's analysis substantially overstates the actual cost of contract services.
- The Coopers & Lybrand and EOTC analyses differ in the treatment of facility and vehicle savings. EOTC considered them as one-time asset transfers and counted their value (\$6 million for facilities and \$0.9 million for vehicles and equipment) as additional savings. Following the guidelines published by the State Auditor on assessing costs under the Chapter 296 of the Acts of 1993 (so-called "Pacheco" Law), Coopers & Lybrand accounted for these as part of direct cost savings on an annualized basis. They accounted for \$0.6 million in additional savings annually.
- Coopers & Lybrand also captured the savings from personnel transfers as reductions in total salaries and benefits (i.e., operating cost savings) for Essex County highway maintenance. EOTC's analysis allocated \$1.8 million in savings to these transfers in a manner we believe would have resulted in double-counting such savings.
- In addition to the above direct cost savings, there are other savings and benefits to the MHD and the State as a result of the competitive contracting in Essex County. EOTC calculated a total dollar value of \$2.0 million for the additional level of service gained under competitive contracting of highway maintenance in Essex County. Coopers & Lybrand did not attempt to assign specific dollar values to each enhanced service or activity, notwithstanding the fact that such benefits are real, as discussed in Section 4.0 below.

Exhibit 3

Summary of Cost Savings

Direct Costs:	C&L	EOTC	State Auditor
Pre-Privatization (FY '92)	\$7,162,229	\$6,269,945	\$4,181,076
Post-Privatization (Oct '92 to Oct '93)	\$4,703,114	\$4,550,568	\$5,592,022
Savings	\$2,459,114	\$1,719,376	(\$1,410,946)

Exhibit 3A

Pre-Privatization Cost Analyses (FY '92)
C&L, EOTC, and State Auditor

	Pre-Privatization (FY '92)		Difference from C&L:	
	C&L	EOTC	EOTC	State Auditor
<u>DIRECT COSTS</u>				
Personnel Costs				
Personnel Wages	3,868,770	3,648,790	(219,980)	(1,672,930)
Reg. Overtime	436,273	425,765	(10,508)	(169,568)
Benefits @ 33%	1,276,694	1,204,101	(72,594)	(552,067)
Total Personnel	5,581,738	5,278,656	(303,082)	(2,394,566)
Material and Supply Costs				
Materials	24,974	24,974	0	1
Contract Services	419,709	419,709	0	0
	444,683	444,683	0	1
Other Direct Costs				
Police	200,000	200,000	0	0
Contingency	0	0	0	0
Facilities	475,164	0	(475,164)	(475,164)
Vehicle Depreciation	111,424	0	(111,424)	(111,424)
Vehicle Maintenance	91,520	91,520	0	0
Administrative Cost	257,700	255,086	(2,614)	0
	1,135,808	546,606	(589,202)	(586,588)
TOTAL	7,162,229	6,269,945	(892,284)	(2,981,153)

Exhibit 3B

C&L, EOTC, and State Auditor Post-Privatization Cost Analyses (Oct '92 - Oct '93)

	Privatization Cost (Oct '92 - Oct '93)			Difference from C&L:	
	C&L	EOTC	State Auditor	EOTC	State Auditor
DIRECT COSTS					
Personnel Costs					
Personnel Wages	1,107,517	924,907	810,920	(182,610)	(296,597)
Reg. Overtime	79,194	98,811	150,000	19,617	70,806
Benefits @ 33%	365,481	305,219	267,604	(60,261)	(97,877)
Total Personnel	1,552,191	1,328,937	1,228,524	(223,254)	(323,667)
Material and Supply Costs					
Materials	0	0	6,000	0	6,000
Contract Services	2,605,719	2,628,203	3,687,158	22,484	1,081,439
	2,605,719	2,628,203	3,693,158	22,484	1,087,439
Other Direct Costs					
Police	216,328	211,658	210,000	(4,670)	(6,328)
Contingency	118,536	176,098	250,000	57,562	131,464
Facilities	0	0	0	0	0
Vehicle Depreciation	0	0	0	0	0
Vehicle Maintenance	26,415	44,794	26,415	18,379	0
Administrative Cost	183,925	160,878	183,925	(23,047)	0
	545,204	593,428	670,340	48,224	125,136
TOTAL	4,703,114	4,550,568	5,592,022	(152,546)	888,908

4.0 ASSESSMENT AND REVIEW OF THE QUALITY AND LEVEL OF SERVICE OF THE ESSEX COUNTY HIGHWAY MAINTENANCE PRIVATIZATION PROGRAM

FY 1992 (Pre-Privatization)

Coopers & Lybrand found that MHD data exists for periods prior to 1992 were not sufficient to compare the quality and level of highway maintenance services in Essex County pre- and post-privatization. Data for periods prior to the competitive contracting period are not specific enough to permit meaningful comparisons to the more detailed data generated after implementation of the highway maintenance privatization program in Essex County.

However, several observations can be made upon examination of the historical Maintenance Management System (MMS) data:

- Precise measurements of types, quantities, and frequency of maintenance services performed is absent from the historical MMS yearly summaries; instead, the form appears to have been designed to measure how many hours workers spent on the job -- not a measurement of productivity -- and served as a verification for payroll purposes.
- The broad categories of the old MMS forms have encouraged poor record-keeping and differing definitions of the service categories
- Furthermore, interviews with past managers and supervisors in Essex County indicate that the Maintenance Management System was not used as a matter of practice to assist them in their day-to-day management; the requirement of daily or weekly entries and the lack of useful data to managers most likely contributed to poor record-keeping and inconsistencies in the data.

A sample MMS form from FY 1991 and 1992 (pre-privatization) illustrating these observations is included in Attachment C.

October 1992 - October 1993 (Post-Privatization)

After the implementation of competitive contracting in Essex County, MHD developed new maintenance management system forms to monitor contractor activities and track costs as incurred each week. This improved information tracking system allowed MHD to benefit from a process which previously had been non-existent. For example, productivity measures were established through data on cost per activity, hours spent on each activity, etc.

In the first contract year of competitively contracting state highway maintenance in Essex County, no state employees were laid off.

Attachment A: Essex County Personnel Costs Comparison

Pre-Privatization Period (Jul 1 '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

		Pre-Privatization Period					Post-Privatization Period				
		Reg. Gross	Benefit	Regular	Total	FTE's		Benefit		Total	
Name	Title	Pay	33.00%	Overtime	Personnel	Location	Req'd	Salary	33.00%	Overtime	Personnel
1	Bernard, William	21,014	6,935	644	28,593	Essex	1	21,014	6,935	0	27,949
2	Collette, Robert	20,541	6,779	504	27,823	Essex	1	20,541	6,779	29	27,348
3	Cunningham, James	26,924	8,885	2,893	38,701	Essex	1	26,924	8,885	2,759	38,567
4	Dowaliby, John	22,700	7,491	3,028	33,219	Essex	1	22,700	7,491	5,090	35,282
5	Emerson, Andrew	20,511	6,769	652	27,932	Essex	1	20,511	6,769	0	27,280
6	Eramo, George	28,629	9,448	3,964	42,041	Essex	1	28,629	9,448	2,400	40,477
7	Fales, David	20,853	6,881	1,422	29,157	Essex	1	20,853	6,881	2,700	30,434
8	Faulkner, Robert	25,025	8,258	3,202	36,486	Essex	1	25,025	8,258	2,971	36,255
9	Giovanniello, Richard	10,446	3,447	726	14,618	Essex	1	10,446	3,447	1,055	14,948
10	Glazebrook, Lawrence	28,069	9,263	7,958	45,290	Essex	1	28,069	9,263	6,761	44,093
11	Hayden, John	28,809	9,507	929	39,245	Essex	1	28,809	9,507	0	38,316
12	Herzog, James	24,220	7,992	8,096	40,308	Essex	1	24,220	7,992	2,052	34,264
13	Hilton, Jack	24,942	8,231	1,766	34,939	Essex	1	24,942	8,231	2,756	35,929
14	Jensen, Catherine	23,767	7,843	1,748	33,359	Essex	1	23,767	7,843	223	31,833
15	Jodoin, Paul	22,652	7,475	4,633	34,760	Essex	1	35,608	11,750	0	47,358
16	Keenan, Patricia	26,091	8,610	2,295	36,996	Essex	1	26,091	8,610	826	35,527
17	Koen, Robert	25,421	8,389	7,200	41,010	Essex	1	25,421	8,389	2,642	36,452
18	Kurpieski, Chester	20,709	6,834	393	27,935	Essex	1	20,709	6,834	350	27,892
19	Lachance, Ronald	21,766	7,183	2,745	31,694	Essex	1	21,766	7,183	3,668	32,616
20	Maccarthy, Scott	20,541	6,779	3,977	31,297	Essex	1	20,541	6,779	1,865	29,185
21	Martinuk Jr., William	25,421	8,389	6,407	40,217	Essex	1	25,421	8,389	2,395	36,205
22	Mckinnon, Robert	1,260	416	0	1,675	Essex	1	1,260	416	0	1,675
23	Medina, Richard	19,849	6,550	496	26,895	Essex	1	19,849	6,550	0	26,399
24	Merson, Harvey	26,924	8,885	1,660	37,468	Essex	1	26,924	8,885	1,431	37,239
25	Moore, William	26,184	8,641	3,272	38,096	Essex	1	26,184	8,641	2,977	37,801
26	Ord, John	27,745	9,156	4,541	41,441	Essex	1	27,745	9,156	2,220	39,121
27	Osullivan, Thomas	23,767	7,843	2,374	33,984	Essex	1	23,767	7,843	1,636	33,246
28	Perdue, John	23,767	7,843	1,191	32,801	Essex	1	23,767	7,843	974	32,584
29	Plumer, John	20,077	6,625	362	27,064	Essex	1	20,077	6,625	172	26,874
30	Pompey, Leonard	28,629	9,448	13,709	51,786	Essex	1	28,629	9,448	7,943	46,020

Attachment A: Essex County Personnel Costs Comparison

Pre-Privatization Period (Jul '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

	Name	Title	Pre-Privatization Period					Post-Privatization Period					
			Reg.	Gross Pay	Benefit 33.00%	Regular Overtime	Total Personnel	Location	FTE's Req'd	Salary	Benefit 33.00%	Overtime	Total Personnel
31	Regan, Michael	HMFII		23,804	7,855	3,188	34,847	Essex	1	23,804	7,855	973	32,632
32	Rock, David	TSFII		30,209	9,969	10,228	50,406	Essex	1	30,209	9,969	7,788	47,966
33	Schlicher, Joseph	LBII		20,696	6,830	2,101	29,627	Essex	1	20,696	6,830	2,316	29,841
34	Trask, Robert	LBII		23,628	7,797	4,492	35,917	Essex	1	23,628	7,797	3,097	34,522
35	Ward, George			30,568	10,088	3,351	44,006	Essex	1	48,405	15,974	0	64,379
36	Wilkins, Walter	HMFIII		28,069	9,263	7,395	44,727	Essex	1	28,069	9,263	7,125	44,457
				844,224	278,594	123,542	1,246,360		36	875,017	288,756	79,194	1,242,966
37	Digiovanni, Anthony	Engineer		21,441	7,075	1,226	29,742	District 4	0.25	7,500	2,475		9,975
38	Sharwani, Javed	Engineer		36,520	12,051	1,207	49,778	District 4	0.25	7,500	2,475		9,975
39	Cochran, Kevin	Engineer		21,014	6,935	557	28,506	District 4	0.25	7,500	2,475		9,975
40	Twomey, Edward	Engineer		44,410	14,655	93	59,158	District 4	0.25	7,500	2,475		9,975
41	Woodburn, William	Engineer		27,139	8,956	0	36,094	District 4	0.25	7,500	2,475		9,975
42	Wilson, Charles	Engineer		44,410	14,655	3,573	62,638	District 4	0.25	7,500	2,475		9,975
43	Carson, Richard	Engineer		27,609	9,111	889	37,610	District 4	0.25	7,500	2,475		9,975
44	Brennan, Daniel	Engineer		21,626	7,137	0	28,763	District 4	0.25	7,500	2,475		9,975
45	Ciamma, Thomas	Engineer		23,877	7,879	0	31,756	District 4	0.25	7,500	2,475		9,975
46	Mansour, Joseph	Engineer		21,498	7,094	0	28,592	District 4	0.25	7,500	2,475		9,975
47	Miller, Donald	Engineer		18,552	6,122	0	24,674	District 4	0.25	7,500	2,475		9,975
48	Cranney, Susan	Engineer		12,360	4,079	144	16,583	District 4	0.25	7,500	2,475		9,975
49	Pieslak, Richard	Engineer		39,200	12,936	5,399	57,536	District 4	0.25	7,500	2,475		9,975
50	Donnellan, Gerald	Engineer		29,827	9,843	4,676	44,347	District 4	0.25	7,500	2,475		9,975
51	Broz, Gordon	Engineer		21,305	7,031	1,963	30,299	District 4	0.25	7,500	2,475		9,975
52	Bresnahan, Christine	Engineer		12,711	4,195	116	17,022	District 4	0.25	7,500	2,475		9,975
53	Ford, John	Engineer		48,571	16,028	3,407	68,006	District 4	0.25	7,500	2,475		9,975
54	Johnson, Tamara	Engineer		14,309	4,722	224	19,256	District 4	0.25	7,500	2,475		9,975
55	Harney, Frederick	Engineer		40,256	13,284	1,357	54,897	District 4	0.25	7,500	2,475		9,975
56	Killourie, Arthur	Engineer		40,256	13,284	1,371	54,911	District 4	0.25	7,500	2,475		9,975
57	Kubik, Walter	Engineer		26,844	8,858	570	36,271	District 4	0.25	7,500	2,475		9,975
58	Ford Jr., Robert	Engineer		34,495	11,383	43	45,922	District 4	0.25	7,500	2,475		9,975

Attachment A: Essex County Personnel Costs Comparison

Pre-Privatization Period (Jul 1 '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

		Pre-Privatization Period					Post-Privatization Period				
		Reg. Gross	Benefit	Regular	Total	Title	Location	FTE's	Benefit		
Name		Pay	33.00%	Overtime	Personnel				Salary	33.00%	Overtime
59	Leszczynski, Walter	40,256	13,284	3,039	56,579	Engineer	District 4	0.25	7,500	2,475	9,975
60	Killam, Donald	29,827	9,843	88	39,759	Engineer	District 4	0.25	7,500	2,475	9,975
61	Eastman, John	1,506	497	0	2,003	Engineer	District 4	0.25	7,500	2,475	9,975
62	Alexander, James	16,401	5,412	29	21,843	Engineer	District 4	0.25	7,500	2,475	9,975
63	Oleary, Donna	24,126	7,962	388	32,476	Engineer	District 4	0.25	7,500	2,475	9,975
64	Perez, Julian	17,426	5,751	0	23,177	Engineer	District 4	0.25	7,500	2,475	9,975
65	Benker, John	27,139	8,956	1,088	37,183	Engineer	District 4	0.25	7,500	2,475	9,975
66	Cunningham, John	3,622	1,195	1,242	6,058	Engineer	District 4	0.25	7,500	2,475	9,975
67	Von Hebb, Robert	20,541	6,779	530	27,949	Engineer	District 4	0.25	7,500	2,475	9,975
		809,072	266,994	33,320	1,109,386			8	232,500	76,725	309,225
68	Luzon, Rafael	1,269	419	0	1,687	LBI	Non-Essex				
69	Freyman, Richard	20,680	6,824	3,356	30,859	LBI	Non-Essex				
70	Ahordini, Michael	19,549	6,451	3,759	29,759	LBI	Non-Essex				
71	Citroni, Richard	19,116	6,308	632	26,056	MEMI	Non-Essex				
72	Smaller, Charles	5,018	1,656	0	6,673	MEMII	Non-Essex				
73	Nicolosi, John	9,034	2,981	765	12,781		Non-Essex				
74	Murley, Jason	25,474	8,406	5,894	39,774	BC	Non-Essex				
75	Branden, Edward	11,094	3,661	489	15,243	BC	Non-Essex				
76	Desmond, Stephen	25,421	8,389	2,493	36,303	BC	Non-Essex				
77	Ward, John	18,523	6,113	1,082	25,717	BC	Non-Essex				
78	Damato, Robert	28,629	9,448	10,473	48,549	BMFI	Non-Essex				
79	Aliberti, Michael	30,647	10,113	6,488	47,248	BMFII	Non-Essex				
80	Gaudreault, Peter	19,676	6,493	5,950	32,119	BO	Non-Essex				
81	Manzelli, Andrew	21,547	7,111	8,621	37,279	BO	Non-Essex				
82	King, Robert	14,504	4,786	686	19,976	BO	Non-Essex				
83	Bouchie, Alfred	21,206	6,998	7,610	35,814	BO	Non-Essex				
84	Pecci, Raymond	20,777	6,856	9,885	37,518	BO	Non-Essex				
85	Cucco, Steven	20,020	6,607	3,286	29,912	BO	Non-Essex				
86	Bagley, Daniel	14,853	4,902	1,936	21,691	BO	Non-Essex				

Attachment A: Essex County Personnel Costs Comparison
Pre-Privatization Period (Jul 1 '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

	Name	Pre-Privatization Period					Post-Privatization Period					Total Personnel
		Title	Reg. Gross		Benefit 33.00%	Regular Overtime	Location	FTE's Req'd	Salary	Benefit 33.00%	Overtime	
			Pay									
87	Clocher, Thomas	BO	22,414	7,397	8,164	37,975	Non-Essex					
88	Stanton, William	BO	18,949	6,253	7,475	32,677	Non-Essex					
89	Little, James	BO	20,868	6,887	2,652	30,407	Non-Essex					
90	Melanson, William	BO	20,222	6,673	7,654	34,549	Non-Essex					
91	Favazza, Samuel	BO	20,482	6,759	4,544	31,785	Non-Essex					
92	Mahoney, John	BO	21,644	7,142	5,224	34,010	Non-Essex					
93	Fitzgerald, William	BO	22,508	7,427	6,230	36,165	Non-Essex					
94	Silke, William	BO	20,854	6,882	1,397	29,134	Non-Essex					
95	Cipollone, Robert	BO	4,573	1,509	643	6,725	Non-Essex					
96	Lake, Steven	BO	21,038	6,943	4,493	32,474	Non-Essex					
97	Roush, Lester	BO	19,658	6,487	2,685	28,831	Non-Essex					
98	Jodoin, Philip	BO	19,615	6,473	5,453	31,541	Non-Essex					
99	Cook, Edward	BO2	23,475	7,747	9,439	40,660	Non-Essex					
100	Ford, William	BO2	21,850	7,211	7,113	36,173	Non-Essex					
101	McInnis, Joseph	BP	25,421	8,389	6,673	40,483	Non-Essex					
102	Kent, Herbert	BP	18,051	5,957	2,374	26,382	Non-Essex					
103	Knight, Kevin	BP	24,165	7,974	7,321	39,460	Non-Essex					
104	Furey, Lawrence	BP	25,421	8,389	5,298	39,108	Non-Essex					
105	Ohanian, Arthur	BW	19,897	6,566	1,286	27,749	Non-Essex					
106	Zito, John	BW	25,929	8,557	2,942	37,428	Non-Essex					
107	Pydynkowski, John	C	24,971	8,241	4,635	37,847	Non-Essex					
108	Glidden, Roger	ELEC	22,323	7,367	2,175	31,865	Non-Essex					
109	Cardarella, John	ELEC	16,133	5,324	3,777	25,233	Non-Essex					
110	Felice, Ernest	HMFI	23,767	7,843	4,354	35,964	Non-Essex					
111	Caswell, Donald	HMFI	20,408	6,735	943	28,085	Non-Essex					
112	Cronin, Matthew	HMFI	23,767	7,843	3,274	34,884	Non-Essex					
113	Muise, John	HMFI	23,767	7,843	943	32,553	Non-Essex					
114	Demarco, Raymond	HMFII	27,338	9,021	1,757	38,116	Non-Essex					
115	Costanza, Vito	HMFII	7,842	2,588	0	10,430	Non-Essex					
116	Fialho, Donald	HMFII	24,584	8,113	3,506	36,203	Non-Essex					

Attachment A: Essex County Personnel Costs Comparison
Pre-Privatization Period (Jul 1 '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

		Pre-Privatization Period					Post-Privatization Period				
	Name	Title	Reg. Gross		Benefit	Regular	Total	FTE's		Benefit	Total
			Pay	Pay		Overtime		Location	Req'd	Salary	Personnel
117	Gianareles, Peter	HMFII	10,528	3,474	0	14,003		Non-Essex			
118	Quirk, William	HMFII	26,924	8,885	1,379	37,187		Non-Essex			
119	Gaudette, James	HMFII	26,923	8,885	1,650	37,459		Non-Essex			
120	Colby, Norman	HMFII	30,906	10,199	8,137	49,242		Non-Essex			
121	Krawczyk, Alexander	HMFII	27,931	9,217	828	37,976		Non-Essex			
122	Hickey jr, Charles	LBII	3,456	1,141	0	4,597		Non-Essex			
123	Panorelli, Philip	LBII	20,536	6,777	630	27,943		Non-Essex			
124	Murphy, Daniel	LBII	20,883	6,891	611	28,385		Non-Essex			
125	Paradise, William	LBII	4,962	1,637	0	6,599		Non-Essex			
126	Hanscom, Peter	LBII	18,165	5,995	1,628	25,788		Non-Essex			
127	Mishel, Herbert	LBII	9,522	3,142	400	13,064		Non-Essex			
128	Davenport Jr., Raymond	LBII	19,554	6,453	22	26,028		Non-Essex			
129	Heckathorn, Robert	LBII	22,670	7,481	1,958	32,110		Non-Essex			
130	Thomas, Joseph	LBII	20,172	6,657	2,222	29,051		Non-Essex			
131	Drellick, James	LBII	18,700	6,171	955	25,826		Non-Essex			
132	Foster, Scott	LBII	19,797	6,533	1,670	28,000		Non-Essex			
133	Rickard Sr., Michael	LBII	20,391	6,729	1,488	28,608		Non-Essex			
134	Croteau, Jerard	LBII	1,157	382	0	1,538		Non-Essex			
135	Fowler, Clyde	LBII	20,123	6,641	540	27,304		Non-Essex			
136	Lattime, Gardner	LBII	15,193	5,014	725	20,932		Non-Essex			
137	Thompson, Donald	LBII	10,271	3,389	407	14,067		Non-Essex			
138	Smith, Michael	LBII	13,734	4,532	558	18,825		Non-Essex			
139	Weisenborn, Eugene	LBII	3,555	1,173	0	4,728		Non-Essex			
140	Poulin, Gerard	LBII	21,235	7,008	1,114	29,356		Non-Essex			
141	Gromko, William	LBII	20,265	6,688	1,514	28,467		Non-Essex			
142	Maori, Carmine	LBII	20,541	6,779	296	27,616		Non-Essex			
143	Maguire, Charles	LBII	23,767	7,843	1,166	32,776		Non-Essex			
144	Dorsey, Richard	LBII	1,060	350	0	1,409		Non-Essex			
145	Sirois, Philip	LBII	19,671	6,491	0	26,163		Non-Essex			
146	Stella, Thomas	LBII	34,800	11,484	496	46,781		Non-Essex			

Attachment A: Essex County Personnel Costs Comparison

Pre-Privatization Period (Jul 1 '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

		Pre-Privatization Period					Post-Privatization Period				
	Name	Title	Reg. Gross		Benefit	Regular	Total	FTE's	Benefit		Total
			Pay						33.00%	Salary	
147	Stlinger, Paul	LBII	20,870	6,887		1,235	28,992	Non-Essex			
148	Garofalo, John	LBII	11,733	3,872		121	15,726	Non-Essex			
149	Pasquarello, Joseph	LBII	22,016	7,265		0	29,281	Non-Essex			
150	Lombardo, David	LBII	20,129	6,643		1,254	28,025	Non-Essex			
151	Mangos, Harry	LBII	20,077	6,625		479	27,181	Non-Essex			
152	Gallant, Joseph	LBII	25,421	8,389		477	34,287	Non-Essex			
153	Dube, John	LBII	20,541	6,779		400	27,719	Non-Essex			
154	Smith, Michael	LBII	4,276	1,411		535	6,222	Non-Essex			
155	Beaton, Mark	LBII	1,157	382		0	1,538	Non-Essex			
156	Cantwell, Frank	LBII	23,770	7,844		260	31,874	Non-Essex			
157	Rochenski, Walter	LBII	20,982	6,924		237	28,144	Non-Essex			
158	McMahon, Christopher	LBII	14,507	4,787		1,164	20,458	Non-Essex			
159	Kennison, David	LBII	19,515	6,440		538	26,494	Non-Essex			
160	Salcedo, Manuel	LBII	20,541	6,779		1,081	28,401	Non-Essex			
161	Doucette, Michael	LBII	17,888	5,903		1,021	24,812	Non-Essex			
162	Green, Paul	LBII	23,767	7,843		69	31,679	Non-Essex			
163	Samperi, Vito	LBII	4,624	1,526		0	6,149	Non-Essex			
164	Josephson, Elmer	LBII	19,671	6,491		0	26,163	Non-Essex			
165	Battistini, Matthew	LBII	19,017	6,276		3,413	28,705	Non-Essex			
166	Czarnecki, Edward	MEMI	23,950	7,903		274	32,128	Non-Essex			
167	Kelleher, Peter	MEO	23,247	7,672		3,365	34,284	Non-Essex			
168	Ennis, Leonard	MEO	21,430	7,072		301	28,803	Non-Essex			
169	Perkins, Stephen	MEO	14,169	4,676		2,811	21,656	Non-Essex			
170	Perkins, Stephen	MEO	9,598	3,167		1,037	13,803	Non-Essex			
171	Robinson, Wayne	MEO	1,828	603		840	3,271	Non-Essex			
172	Provansano, Joseph	MEO	11,192	3,693		0	14,886	Non-Essex			
173	Scotina, Ricky	MEO	22,744	7,506		3,017	33,267	Non-Essex			
174	Kelleher, Gavin	MEO	21,292	7,026		757	29,075	Non-Essex			
175	Costanza, Pasquale	MEO	22,293	7,357		1,802	31,451	Non-Essex			
176	Cavanaugh, Ronald	MEO	18,225	6,014		3,514	27,754	Non-Essex			

Attachment A: Essex County Personnel Costs Comparison

Pre-Privatization Period (Jul 1 '91-Jun 30 '92) versus Post-Privatization Period (Oct 8 '92-Oct 7 '93)

		Pre-Privatization Period					Post-Privatization Period					
Name		Title	Reg. Gross Pay	Benefit 33.00%	Regular Overtime	Total Personnel	Location	FTE's Req'd	Salary	Benefit 33.00%	Overtime	Total Personnel
177	Puopolo Jr., Arthur	MEO	21,491	7,092	4,062	32,646	Non-Essex					
178	Robinson, Wayne	MEO	21,980	7,253	5,211	34,444	Non-Essex					
179	Moses, Edward	P	23,950	7,903	0	31,853	Non-Essex					
180	Tornaselli, Robert	P	21,858	7,213	1,114	30,184	Non-Essex					
181	Ward, Thomas	P	24,969	8,240	941	34,150	Non-Essex					
182	Mackinnon, Paul	TC	21,333	7,040	2,574	30,947	Non-Essex					
183	Gauthier, Raymond	TS	25,421	8,389	3,914	37,724	Non-Essex					
184	Lucas, Anthony	TSFI	26,923	8,885	3,374	39,182	Non-Essex					
185	Stone, Walter	TSFI	716	236	0	953	Non-Essex					
			2,215,474	731,106	279,411	3,225,992	Non-Essex					
Total			3,868,770	1,276,694	436,273	5,581,738		44	1,107,517	365,481	79,194	1,552,191

Attachment B: Depreciation Costs of Vehicles
Transferred from Essex County to Other District Due to Privatization

<u>Model</u>	<u>Year</u>	<u>Purchase Price</u>	<u>Estimated Useful Life</u>	<u>Annual Depreciation</u>
Ford Dump	1986	\$37,953.00	10	\$3,795
Ford Dump	1986	\$37,953.00	10	3,795
Ford Dump	1986	\$37,953.00	10	3,795
Ford 1 Ton	1988	\$27,479.00	10	2,748
Ford 1 Ton	1988	\$27,479.00	10	2,748
Ford 1 ton	1988	\$27,479.00	10	2,748
Ford 1 ton	1988	\$27,479.00	10	2,748
Ford 1 Ton	1988	\$27,479.00	10	2,748
Ford Dump	1986	\$37,953.00	10	3,795
Ford S/R	1980	\$27,470.00	10	-
Ford S/R	1980	\$27,470.00	10	-
Ford S/R	1986	\$31,649.00	10	3,165
Ford S/R	1986	\$31,649.00	10	3,165
Ford S/R	1986	\$31,649.00	10	3,165
JD Loader	1977	\$21,736.00	10	-
JD Loader	1974	\$20,114.00	10	-
Trojan Loader	1980	\$28,896.00	10	-
Trojan Loader	1986	\$35,376.00	10	3,538
Ford Loader	1979	\$27,379.00	10	-
Ford Loader	1981	\$32,779.00	10	-
Ford	1979	\$27,379.00	10	-
JD	1980	\$18,755.00	10	-
INT	1982	\$31,780.00	10	-
Ford Basin Clean	1977	\$34,857.00	10	-
Ford Water truck	1971	\$13,000.00	10	-
Int. Compressor	1975	\$ 5,000.00	5	-
INT	1982	\$27,000.00	10	-
Elgin Sweeper	1986	\$60,400.00	7	8,629
Elgin Sweeper	1986	\$60,400.00	7	8,629
Elgin Sweeper	1986	\$60,400.00	7	8,629

Attachment B: Depreciation Costs of Vehicles

Transferred from Essex County to Other District Due to Privatization

<u>Model</u>	<u>Year</u>	<u>Purchase Price</u>	<u>Estimated Useful Life</u>	<u>Annual Depreciation</u>
Gallion Roller	1975	\$ 7,895.00	7	-
Interstate Trailer	1987	\$ 9,691.00	7	1,384
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1988	\$44,021.00	10	4,402
Ford Dump	1986	\$37,953.00	10	3,795
Ford Dump	1986	\$37,953.00	10	3,795
Ford Dump	1986	\$37,953.00	10	3,795
				<u>3,795</u>
				\$111,424

COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS

PAGE NO. 1

01554031

LOCATION ANALYSIS REPORT

MMS OUTPUT RPT 491
DATE RUN 03/20/92

LOCATION ANALYSIS REPORT

REQUEST NO. 0601

DISTRICT 5

FISCAL YEAR 1991

SPECIAL CODES

-----DATE-----
FROM 01-01 TO 06-30

ACTUAL MILEPOST
FROM 0.0 TO 964.0

REQUESTED MILEPOST
FROM 0.0 TO 999.9

ROUTE
ALL

ACTIVITY

LINE	ACTIVITY	DATE	UNIT	LI	FT	WORK UNITS COMPLETED	HOURS	LABOR COSTS	EQUIP. COSTS	MATL. COSTS	TOTAL COSTS	TRAVEL TIME	GROSS PROD.	GROSS UNIT COST
211	ERECT SNOW FENCE		LI	FT	16	16	46	229	16,154	2,771	229		1,000	14.31
212	SNOW AND ICE PATEL		MH		1,423	1,423	1,681	26,040	16,154		44,965		0.847	31.60
213	APPLY CHEMICALS ABRASI		MH		5,326	5,326	3,605	58,716	153,512	135,587	47,915		1,400	8.98
214	PLANTING SODA		MH		159	159	292	4,590	8,113	2,792	15,495		0.545	97.45
215	PUSH SLEA MASH CLEANU		MH		252	252	296	4,248	13,761	1,373	19,382		0.851	76.91
216	POTHOLE PATCHING		TONS		374	374	1,205	17,334	41,014	2,412	60,760		0.310	162.46
217	SURFACE TREATMENT		TONS		10	10	24	344	588	868	1,800		0.417	180.00
218	GLADING SHAPING		LI	MI	49	49	56	802	2,250	864	3,916		0.875	79.92
219	CLEANING JITCHES		LI	FT	18,620	18,620	120	1,721	3,591		5,312		155.167	0.29
220	CLEAN DRAIN STRUCTURES		CA		706	706	519	7,493	13,599		21,091		1.360	29.87
221	CLEAN DRAIN LINES SIAL		LI	FT	82	82	176	2,523	7,574		10,097		0.466	123.13
222	CLEAN DRAIN LINES LARG		LI	FT	96	96	100	1,440	867		2,307		0.960	24.03
223	REPAIR CURBS JITTERS		LI	FT	600	600	186	2,683	800	3,936	7,419		3.226	12.37
224	REPAIR DRAIN STRUCTURE		EA		11	11	288	4,128	1,032	45	5,211		0.038	473.73
225	REPAIR UPAIN -IES		LI	FT	516	516	40	573	2,311	34	2,919		15.400	4.74
226	PEST AND MAINTENANCE		LI	MI	320	320	1,113	15,990	17,867		33,847		0.299	105.77
227	FULL LITTER PICKUP		LI	MI	2,139	2,139	3,005	43,094	34,292		77,386		0.712	36.18
228	SPOT LITTER PICKUP		MH		14,572	14,572	15,681	224,904	280,522		5,426	.17	0.929	0.37
229	MURBLE SWEEPING		LI	MI	700	700	1,100	15,770	61,300		77,070		0.636	110.10
230	MECHANICAL JFOMING		SO	YD	11,180	11,180	196	2,809	5,863		8,672		57.041	0.78
231	MUSING		SA	MI	546	546	504	7,224	4,297		11,521		1.083	21.10
232	REPAIR SLIP S.E. SLIDES		SA	MI	219	219	771	11,092	17,634		28,726	1.20	0.284	131.17
233	OTHER LANDSCAPING		MH		1,763	1,763	1,745	24,994	32,339		1,621		1.000	101.31
234	BRIDGE PAINTING		GAL		36	36	668	9,569	1,131	382	11,082	2.51	1.010	32.52
235	DECK REPAIR		SO	FT	1,133	1,133	792	11,380	3,243	5,424	20,047		0.057	291.63
236	RAILING REPAIR		LI	FT	1,232	1,232	962	13,873	3,613	739	18,225		1.431	17.69
237	JOINT REPAIR		LI	FT	48	48	30	480	330	34	844		1.231	14.79
238	SUB & SUPERSTRUCTURE		MH		40	40	40	573	160	187	920		1.600	23.00
239	CLEANING BRIDGES		LI	FT	8,450	8,450	372	5,352	2,474		7,826	1.71	22.715	0.93
240	OPERATE MOVABLE BRIDGE		MH		23,162	23,162	26,063	383,372	51		83,423		0.889	3.60
241	REPAIR MOVABLE BRIDGES		EA		129	129	3,363	49,100	11,345	1,260	61,705		0.038	478.33
242	LW LEVEL SIGI MAINT		EA		5,400	5,400	5,400	77,390	23,279	24,205	24,875		1.000	4.61
243	OVERHEAD JUNG		EA		2	2	16	229	442		671		0.125	335.50

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS

PAGE NO. 2

LOCAL ROAD MAINTENANCE MANAGEMENT SYSTEM

LOCATION ANALYSIS REPORT

MMS OUTPUT RPT 494
DATE RUN 03/20/92

FISCAL YEAR 1991 DISTRICT 5

ACTUAL MILEPOST FROM 0.0 TO 964.0
DATE FROM 01-01 TO 06-30

ACTIVITY	ROUTE	REQUESTED MILEPOST FROM	ACTUAL MILEPOST FROM	MANHOURS	LABOR COSTS	EQUIP. COSTS	MATL. COSTS	TOTAL COSTS	TRAVEL TIME	GROSS PROD.	GROSS UNIT COST
941 PAVEMENT MARKING LINES	ALL	0.0 TO 999.9	0.0 TO 964.0	2,304	33,023	16,578	31,494	81,095	1,000	1,000	35.20
942 PAVEMENT MARK MESSAGE				32	458	882		1,340			41.88
952 TRAFFIC PATTERN CHANGE				14	344	91		435		0.583	31.07
962 ADMINISTERING				11,308	178,285	66,332		44,617		0.953	3.78
982 OFF-ROAD ACTIVITIES				16,388	269,909	6,531	685	77,125	340.49	0.875	4.71
990 MANPOWER ON LOAN				7,521	8,277			0		0.909	0.00

TOTALS FOR

MANHOURS 112,396

LABOR-COSTS 1,512,207

EQUIP-COSTS 857,159

MATRL-COSTS 219,093

TOTAL-COSTS 2,584,549

COMMUNHEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS

PAGE NO. 1

INTEGRATED REPORT MAINTENANCE MANAGEMENT SYSTEM

REQUEST NO. 0001

LOCATION ANALYSIS REPORT

MMS OUTPUT RPT 491
DATE RUN 03/20/92

FISCAL YEAR 1991

DISTRICT 5

ROUTE REQUESTED MILEPOST
FROM 1.0 TO 999.9

ACTUAL MILEPOST
FROM 0.0 TO 903.3

DATE-----
FROM 07-01 TO 12-31

SPECIAL CODES

PROJECT	ACTIVITY	DATE	UNITS COMPLETED	MAN HOURS	LABOR COSTS	EQUIP. COSTS	MATL. COSTS	TOTAL COSTS	TRAVEL TIME	GROSS PROD.	UNIT COST
212	SNOW AND ICE PATROL		697	983	15,057	5,385		20,442		0.709	29.53
213	APPLY CHEMICALS ABRASI		1,698	2,256	34,525	37,557	91,850	63,912		0.752	31.68
214	PLANTING TREES		30	107	1,919	2,387		4,006		0.748	50.08
215	POST STORM SIGN CLEANU		225	260	3,729	7,476		11,205		0.865	49.80
216	PUTTABLE PATCHING		117	538	7,718	12,124	1,361	21,203		0.217	181.22
217	DEEP PATCH BASE REPAIR		16	24	344	416		760		0.667	47.50
218	SURFACE TREATMENT		60	60	860	409		1,269		1.000	21.15
219	BLADING SHAPING		8	32	458	780		1,238		0.250	154.75
220	CLEANING DITCHES		606	28	401	1,195		1,596		21.429	2.66
221	CLEAN DRAIN STRUCTURES		3,535	1,378	19,919	32,414		52,333		2.565	14.80
222	CLEAN DRAIN LINES SHAL		2	8	115	62		177		0.250	80.50
223	REPAIR DRAIN STRUCTURE		59	100	1,432	1,403		2,835		0.590	48.05
224	REST AREA MAINTENANCE		245	675	9,680	20,823		30,503		0.363	124.50
225	FULL LITTER PICKUP		1,916	2,150	30,877	34,471		65,348		0.891	34.11
226	SPOT LITTER PICKUP		13,874	14,324	206,299	291,740		98,039	3.08	0.969	7.07
227	MOBILE SHEEPING		140	140	2,009	8,271		10,280		1.000	73.43
228	REPAIR FENCING		102	8	115	520		635		12.500	6.35
229	MOWING		96	96	1,378	468		1,825		1.000	19.02
230	TREE MAINTENANCE		374	556	7,960	11,333		19,293		0.673	51.59
231	REPAIR SLOPES & SIDES		57	24	344	828	101	1,273		2.375	22.33
232	OTHER LANDSCAPING		352	352	5,040	6,746		11,786		1.000	33.49
233	BRIDGE PAINTING		28	516	7,395	379	280	9,054		0.054	287.64
234	DECK REPAIR		1,333	1,062	15,368	8,269	7,108	30,745		1.302	22.23
235	RAILING REPAIR		812	492	7,049	2,950	370	10,369		1.650	12.77
236	CLEANING BRIDGES		9,785	472	6,764	2,095		8,859	20.731	0.91	0.91
237	OPERATE MOVABLE BRIDGE		21,714	24,844	367,912			67,912		0.874	3.13
238	REPAIR MOVABLE BRIDGES		123	3,012	43,965	10,284	1,690	55,939		0.041	454.79
239	TUNNEL MAINTENANCE		8	8	115	6		121		1.000	15.13
240	SIGNAL REPAIR		70	109	1,576	711	81	2,368	13.71	0.642	33.83
241	LOW LEVEL SIGN MAINT		6,820	6,882	98,617	34,218	40,628	73,463		0.991	10.77
242	PAVEMENT MARKING LINES		5,496	5,464	78,593	25,567	26,977	31,157		0.006	5.67
243	PAVEMENT MARK MESSAGES		794	756	10,832	5,011	17,635	33,478		1.050	42.16
244	TRAFFIC PATTERN CHANGE		117	133	2,668	312		2,980		0.639	25.47
245	ADMINISTERING		11,789	12,385	178,472	64,655		43,127	9.99	0.952	3.66

1-4-92 12.11.92

COMMONWEALTH OF MASSACHUSETTS

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DEPARTMENT OF PUBLIC WORKS

PAGE NO. 2

STATE REPORT MAINTENANCE MANAGEMENT SYSTEM

REQUEST NO. 0001

LOCATION ANALYSIS REPORT

MMS OUTPUT RPT 494
DATE RUN 03/20/92

FISCAL YEAR 1991 DISTRICT 5

ROUTE ALL REQUESTED MILEPOST FROM 0.0 TO 999.9
ACTUAL MILEPOST FROM 0.0 TO 903.3
SPECIAL CODES FROM 07-01 TO 12-31

WU.CM	ACTIVITY	MANHOURS	LABOR-COSTS	EQUIP-COSTS	MATL-COSTS	TOTAL-COSTS	TOTAL TRAVEL TIME	GROSS PROD.	GROSS UNIT COST
990	OFF-ROAD ACTIVITIES	11,405	11,844	170,257	1,821	837	72,915	69.72	0.963
990	MANPOWER ON LOAN	6,595	7,185				7	0.918	0.00
TOTALS FOR									
1991	07-01 TO 12-31	90,313	1,339,442	633,086	188,918	2,161,446			
1991	01-01 TO 06-30	112,396	1,512,897						

@ 12.80 P.H. plus 2% of O.T. / 1991 CALENDAR YEAR 211,709 2,851,739

MAINTENANCE MANAGEMENT SYSTEM

DISTRICT NO. 5

DISTRICT MAN-HOUR UTILIZATION REPORT

MMS OUTPUT RPT 251
DATE RUN 05/21/92

FOR THE FISCAL YEAR 1992

ACTIVITY

NO.	NAME	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
212	SNOW AND ICE PATROL	2			12		969	303	382	300				2,048
213	APPLY CHEMICALS ABRASI					48	2,208	1,051	824	791				4,922
214	PLUING SNOW				20		79		16	54				177
215	PUSH STORM SNOW CLEANU						260	20	40					416
611	POTHOLE PATCHING		24	80	104	90	232	280	582	328	104	32		1,864
612	DEEP PATCH BASE REPAIR				60					72				96
613	SURFACE TREATMENT													60
621	BLADING SHAPING	32							16		80	32		168
631	CLEANING DITCHES		16		12					16				68
632	CLEAN DRAIN STRUCTURES	80	104	316	367	351	160	220	64	228	116	44		2,050
633	CLEAN DRAIN LINES SHAL	8												8
635	REPAIR CURBS GUTTERS				36	24		2	16	13	32			2
636	REPAIR DRAIN STRUCTURE	4	36		136	80	16		70	52	104	40		161
641	REST AREA MAINTENANCE	212	113	113										941
642	FULL LITTER PICKUP	895	607	220	260	100	8	104	256	120	1,569	384		4,583
643	SPJ LITTER PICKUP	2,116	3,591	3,252	2,172	1,703	1,490	2,352	2,576	2,782	3,538	1,926		27,498
644	MOBILE SHEEPING	72	52		16					16	136	24		316
645	MECHANICAL BRUDDING								48		89	64		201
651	REPAIR GUARD RAIL								24					24
652	REPAIR FENCING				8				12					20
711	MOWING	16			40	40					8			104
713	TREE MAINTENANCE	48	60	224	144	80								556
714	REPAIR SLOPES & SLIDES	16	8								48			24
715	OTHER LANDSCAPING	160	176	16										400
811	BRIDGE PAINTING	232	208	48	28			176	216	208	276	80		516
812	DECK REPAIR	198	40	588	220	16			148	96	128	288		2,018
813	RAILING REPAIR		112	136	196	48				128	112	176		1,152
816	CLEANING BRIDGES	224	176		24	48								888
821	OPERATE MOVABLE BRIDGE	4,348	4,938	4,696	4,285	3,545	3,073	2,790	2,987	2,302	2,622	1,010		36,596
822	REPAIR MOVABLE BRIDGES	737	376	316	921	378	284	48	168	312	198	224		3,962
831	TUNNEL MAINTENANCE				8									8
911	SIGNAL REPAIR	34	32	11		1	31	40	54	55	39	4		301
912	SIG WASH REPLAC & LAMP									12	58			70
921	REPAIR REPLAC LAMP LITE									8	26			34
931	LOW LEVEL SIGN MAINT	936	1,516	1,310	976	944	1,200	1,088	872	1,024	1,152	544		11,562
941	PAVEMENT MARKING LINES	2,080	224	1,056	1,888	216					256	80		5,800
942	PAVEMENT MARK MESSAGES		444	256	56									756
953	TRAFFIC PATTERN CHANGE		6		20	152								183
966	ADMINISTERING	2,088	1,998	1,953	2,422	2,332	1,600	1,889	1,805	1,935	1,902	881	8	20,813
995	OFF-ROAD ACTIVITIES	1,528	2,019	1,974	1,818	2,135	2,370	2,507	2,448	2,528	1,755	699		21,781

DISTRICT NO. 5

DISTRICT MAN-HOUR UTILIZATION REPORT

MMS OUTPUT RP.F 251
DATE RUN 05/21/92

ACTIVITY -----

NO.	NAME	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
996	MANPOWER UN LUAN	1,066	1,237	952	1,309	983	1,588	1,085	1,457	1,711	1,122	316		12,876
	TOTAL	17,156	18,228	17,530	17,558	13,722	15,568	14,075	15,089	15,171	15,470	6,848	8	166,023

TOTAL

